REMARKS/ARGUMENTS

The claims are 1-4. Claims 1-4 have been amended to better define the invention. Support for the claims may be found, *inter alia*, in the disclosure at pages 2-3, FIGS. 1-4, and the original claims. Reconsideration is expressly requested.

Claims 1-4 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for the reasons set forth on page 2 of the Office Action. In response, Applicants have amended claims 1-4, *inter alia*, to improve their form, which it is respectfully submitted overcomes the Examiner's rejection under 35 U.S.C. §112, second paragraph.

Claims 1-4 were rejected under 35 U.S.C. §102(b) as being anticipated by *U.S. Patent No. 3,084,926* to *Lemelson*, or *JP 2002-013569* to *Omura*, or *U.S. Re-issue Patent No. 14,287* to *Knudsen*.

This rejection is respectfully traversed.

As set forth in claim 1 as amended, Applicants' invention

provides a helical compression spring configured as an injection-molded part, having precisely one spring body in helical line shape, several windings, and planar end disks. Each winding has at least one segment that has a lesser incline than the incline of the winding. All the segments of the windings are disposed symmetrically to precisely one divisional plane of the helical compression spring.

Breaking down the characteristics of claim 1 as amended, for reasons of making reference to these characteristics more easily later and with reference to the drawings, Applicants' invention provides:

1. Helical compression spring (1),

2. which is configured as an injection-molded part,

3. having precisely one spring body in helical line shape,

4. having several windings (2),

5. and having planar end disks (3),

6. whereby each winding (2) has at least one segment (5) that has a lesser incline in comparison with the incline of the winding (2),

7. and whereby all the segments (5) are disposed symmetrically to precisely one divisional plane (4) of the helical pressure spring (1).

In this way, Applicants' invention provides a helical compression spring which allows the winding path of the helical compression spring to be formed free of undercuts in the region of the divisional plane, in the ummolding direction. See page 1 of Applicants' disclosure.

None of the cited references discloses or suggests a helical compression spring having the structure recited in claim 1 as

amended or teaches the benefits that are achieved by that structure.

Lemelson in FIG. 2, to which particular reference the Examiner has made in the Office Action, has geometrical figures at the upper and lower end of the spring, which figures are connected with the related end of the spring. A hollow body 36 is connected with the upper spring, and a hollow foot 39 is connected to the lower end. There is no disclosure or suggestion of a helical pressure spring having precisely one spring body in helical line shape and having planar end disks in accordance with characteristics 1, 3, and 5 of Applicants' claim 1 discussed above.

Omura is considered the closest state of the art and relates to a pressure spring including a spring nest that is formed from two concentric spring bodies in helical line shape that are angled alternatively to the right and to the left. *Omura's* pressure spring is therefore not the type of helical spring used most frequently in mechanical engineering, which represents a torsion bar spring wound in the form of a helical line, which is stressed

in the spring axis by means of a pressure force or tensile force. *Omura's* spring has several windings 4c, but only one planar end disk 4e. The other end disk is a geometrical body 4a that is formed by a cylinder having a hemisphere affixed to its free end. The windings 4c have segments 4d that have a lesser incline as compared with the incline of the winding 4c. The segments 4d are disposed symmetrically to the divisional plane 4f.

Accordingly, *Omura* fails to disclose or suggest a helical pressure spring having precisely one spring body in helical line shape and having planar end disks as recited in Applicants' claim 1 as amended (characteristics 1, 3 and 5). Not only is *Omura's* pressure spring not a helical spring having precisely one spring body in the shape of a helical line, the end disks are not both configured to be planar.

The *Knudsen* reference is even further afield. *Knudsen* discloses a spring that does not have any upper and lower plates. Instead, the spring is extended on the underside, in the direction of the spring windings, and the spring is drawn in at the top.

Accordingly, not only does *Knudsen* fail to disclose or suggest a helical pressure spring having precisely one spring body in helical line shape and having planar end disks, there is no disclosure or suggestion of each winding having at least one segment with a lesser incline in comparison with the incline of the winding. Thus, characteristics 1, 3, 5 and 6 of Applicants' claim 1 are nowhere disclosed or suggested by *Knudsen*.

The remaining references cited by the Examiner but not applied have been considered, but are believed to be no more pertinent. None of these references discloses a helical compression spring having the combination of structural features recited in claim 1 as amended or teaches the benefits that are achieved from that structure. For example, *Piepenstock U.S. Patent No. 5,516,085* corresponds to *DE 44 09 443* discussed in the disclosure at page 1 where the disadvantages of that arrangement are pointed out.

Accordingly, it is respectfully submitted that none of the cited references discloses or suggests Applicants' helical

compression spring as recited in claim 1 as amended. The spring of *Omura* that includes a spring nest formed from helically shaped spirals that are wound in opposite directions to one another, which nest is disposed between two end pieces 4a, 4e, is of a different type because it is not a helical pressure spring as explained above. *Omura's* spring is also not suitable for accomplishing the task to which Applicants' helical spring is directed, namely to create a shaping of a winding path of a helical pressure spring that is free of undercuts, in the unmolding direction. Accordingly, it is respectfully submitted that a person skilled in the art would have no reason to refer to *Omura* to solve this problem.

Lemelson relates to a unit having an axle with a helical spring that is formed thereon. *Lemelson's* purpose is different from Applicants' helical compression spring because *Lemelson's* arrangement is not a pressure spring as such, but rather a spring/axle combination that is cast in one piece. In this regard, it is questionable whether a person skilled in the art would even have referred to *Lemelson* at all in order to accomplish the task

to which Applicants' invention is directed. *Lemelson* also fails to disclose or suggest any information as to the possible effect of achieving a shaping of the winding path or a helical pressure spring that is free of undercuts in the unmolding direction, if the spring were produced separately as a component of the major part of *Lemelson's* arrangement.

Accordingly, it is respectfully submitted that claim 1 as amended, together with claims 2-4 which depend directly or indirectly thereon, are patentable over the cited references.

In summary, claims 1-4 have been amended. In view of the foregoing, it is respectfully requested that the claims be allowed and that this application be passed to issue.

Respectfully submitted,
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I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on September 11, 2007.

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